



Certificate no.:
TAF00001XH

TYPE APPROVAL CERTIFICATE

This is to certify:

that the Horizontal Class A Hatches

with type designation(s)
CMWS-AWTH-A60 Deck Hatch

issued to

China Marine Windows Shipyard Co., Ltd.
Kaohsiung, Taiwan Region

is found to comply with

DNV rules for classification – Ships

DNV offshore standards

DNV statutory interpretations DNV-SI-0364 – SOLAS interpretations, Edition July 2021

Application:

Approved for use as an integrated part of a horizontal fire retarding division of class A-60.

Product(s) approved by this certificate is/are accepted for installation on all vessels classed by DNV.

Issued at **Høvik** on **2024-07-19**

This Certificate is valid until **2029-07-18**.

for **DNV**

DNV local unit: **Kaohsiung**

Approval Engineer: **Tessa Bieber**

This Certificate is subject to terms and conditions overleaf. Any significant change in design or construction may render this Certificate invalid.
The validity date relates to the Type Approval Certificate and not to the approval of equipment/systems installed.

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.



Product description

"CMWS-AWTH-A60 Deck Hatch",
is a single leaf hinged hatch with wheel consisting of a hatch leaf and a hatch frame.

The hatch leaf consists of, seen from outer to inner layer:

- 10 mm thick aluminium plate
- 50 mm thick insulation core of type 'Rockwool board' (density 120 kg/m³ manufactured by Byucksan Youngdong Plant)
- 25 mm thick ceramic fiber blanket (density 128 kg/m³, manufactured by INCA)
- 6 mm thick calcium silicate board (manufactured by Jia Dah Chemical Industries)
- 34±5 mm air gap
- 13 mm thick ceramic fiber blanket (density 128 kg/m³, manufactured by INCA)
- 2.0 mm thick steel plate

Total hatch thickness: 140 mm.

The hatch incorporates two horizontal stiffeners which are on the inside of the aluminium plate side and the steel cover which is bolted inner. Along the edges of the outer steel cover, a ceramic packing (32 x 20 mm) is fitted with a 6 mm thick aluminium plate packing holder.

The hatch is connected to the frame with 1 spring hinge and is closed by a locking system consisting of eight fastening points and opening handles (wheel), controlling linkage rods.

The coaming of the hatch is consisting of a 12 mm thick aluminium plate and 13 mm thick ceramic fiber blanket (density 128 kg/m³, manufactured by INCA). The coaming may be bolted (M8 bolt and nut with 2 mm fire resistance packing, spacing max. 110 mm) or welded to the deck.

For further details, see drawing listed under Type Approval documentation below.

Application/Limitation

Approved for use as an integrated part of a horizontal fire retarding division of class A-60. Installation of the hatch in decks made of other materials (aluminium, FRP, etc.) are subject to case-by-case approval.

Max. hatch leaf size: 1064 mm x 1064 mm (W x L)
Max. clear hatch opening: 1000 mm x 1000 mm (W x L)
Hatch cover frame: 1024 mm x 1024 mm x 200 mm (W x L x D)

Any surface materials used have to be approved for smoke and toxicity and low flame spread characteristics (IMO 2010 FTP Code parts 2 and 5) when required according to relevant rules and regulations.

Note that this is a fire safety certificate which only covers fire technical properties (i.e., not to cover any evaluations related to watertightness, weathertightness, etc.).

The construction and installation are to be in accordance with the type approval documents listed below and with the manufacturer's manual for installation.

Type Approval documentation

Certification in accordance with Class Programme DNV-CP-0338, September 2021.

Test report No. FPSRC-D0584-IM-F-08 dated 2 February 2024 from National Cheng Kung University Fire Protection and Safety Research Center, Tainan, Taiwan Region.

Drawing No. CMWS-AWTH-A60-1010 dated 15 July 2024 from manufacturer.

Tests carried out

Tested according to IMO 2010 FTP Code part 3.

Marking of product

The product is to be marked with name of manufacturer, type designation and fire-technical rating.